

**Amendments to the Specification:**

*Please amend the third paragraph of page 6 as follows:*

The description and the scheme of the digital voltage regulator 13 in 64 stage displaying the engine's step 15 are the following (with reference to Fig. 3):

*Please amend the fifth paragraph of page 6 as follows:*

[[A)]] A - Displaying block

*Please amend the sixth paragraph of page 6 as follows:*

[[B)]] B - Digital-analogic counter and decoding block

*Please amend the seventh paragraph of page 6 as follows:*

[[C)]] C - Command and control block

*Please amend the eighth paragraph of page 6 as follows:*

[[D)]] D - Power source

*Please amend the ninth paragraph of page 6 as follows:*

The first functioning block consists of two counters 21, 22 (MMC 40192), at whose outlets are connected to 7 segment/[[ach]] each decoder / driver 19, 20 (MMC 4543), followed by two digits with common anode 17, 18.

*Please amend the tenth paragraph of page 6 as follows:*

The second block consists of two counters 26, 27(MMC 40193) from which the first six bits are selected, commanding six relays through a buffer with open-collector outlets outputs: 29 (ULN2803). On the relays contacts there are parallel-assembled resistances, which during the countering make a variable resistance, depending on the pitch number, which varies the gate current of a triac through a diac.

*Please amend the last paragraph of page 6 as follows:*

Command and control block is made of the following circuits: ~~NMC 4013~~ dual ~~D-TYPE~~

~~FLIP-FLOP~~ d-type flip-flop 23 (MMC 4013); ~~NMC 4048~~ (the logical programmable gate with eight inputs) 28 (MMC 4048); ~~NMC 4060 (14 STAGE RIPPLE CARRY BINARY COUNTER/DIVIDER AND OSCILLATOR)~~ 14 stage ripple carry binary counter/divider and oscillator 30 (MMC4060); two ~~MMC~~ circuits ~~4093~~ 24, 25 (MMC 4093) (four SI-NU logical gates ~~[[[]]~~trigger Schmidt). The first bistable in 23 (MMC4013) chip receives the command “emergency stop” on the first ‘reset’ through a positive impulse from a reversible switch. The second command set on the same bistable is linked to the pin “clock” and execute the start-stop function. The bistable is linked in configuration of divider by two, ~~[[it]]~~ which means that “data” pin is linked at the negative outlet. The outlets in fact represent the start/stop and inhibition physical commands, which are visually observed on a bicolor led, commanded by two bipolar transistors. When the led is red it means the montage is in “stand-by”, when in fact the counters ~~are initialized~~ 21, 22 (MMC 40192) and 26, 27 (MMC 40193) are initialized on the “preset enable” pin, charging the registers with the binary code 60. The meter of the divisor 30 (MMC 4060) is to be reset, and the ~~MMC4543~~ decoding-systems 19, 20 (MMC 4543) receive a command to turn the digits off and through a relay the engine’s power is cut off. When a positive impulse shows up on the “clock” pin, the bistable moves back, the led will light green, and the 21, 22 (MMC 40192) and 26, 27 (MMC 40193) meters will receive the incrementation from the binary preset number, which is 60. Concomitantly, ~~MMC4060~~ the divisor 30 (MMC 4060) will start to generate the clock signal for the above mentioned meters. The ~~MMC4543~~ diver 19, 20 (MMC 4543) will be enable to light the digits and the relay will be charged letting the voltage to power the engine. The next bistable of the

~~MMC4013~~ circuit controls 23 (MMC 4013) the numbering direction, letting the clock signal (processed from 30, MMC 4060) through two logical gates SI-NU, go to the incrementation or decrementation pins of the 21, 22 (MMC 40192) and 26, 27 (MMC 40193) meters. The “set” pin will receive a positive impulse through a condenser, from the “true” outlet of the other bistable, which will validate incrementaion when starting. Where “data” pin is, there is also the outlet of a gate SI-NU with two entries, which set the next numbering direction – depending on the “true” outlet of the bistable on the first entry, and on the second entry linked at the significant bit among those six that command the relays. This data will be charged when a positive impulse will appear at the “clock” pin, processed in the control block made of a 28 (MMC 4048) and a 24 (MMC 4093). This impulse appears in the moment when on the entries of the logical gate 28 (MMC 4048) there is the binary code “0” or “63”, which means “000000” or “111111” that represent the end of the descremenation or incremenation, resulting from those six outlet bits of the ~~MMC40193~~ circuits 26, 27 (MMC 40193). In any of those two situations, at the outlet “J” of the ~~MMC4048~~ gate 28 (MMC 4048), the logical “0” level appears. During incrementation, this gate will have the logical function SI-NU, and during decrementation- the logical function SAU-NU. Everything will be controlled at “Ka” pin linked to true outlet of the control bistable of direction. The outlet “J” of the logical gate 28 (MMC 4048) commands an astable with auto-reverse made of the four logical gates SI-NU having two entries each, of the second 25 (MMC 4093). When the 0 level appears in the entrance of the first gate, considering the fact that on the second gate is fixed the first logical level, the outlet would be in the logical level 1. The second gate receives on one gate the same fix

level (logical 1) and in the other one the logical level 1 resulted from the first gate, the result on the outlet being the change into logical zero. There is a condenser between the outlet of the second gate and one of the entrances of the third one. This condenser is charged through two resistances [[220 k]] 220k and [[390 k]] 390k, through which it would discharge itself, when the logical level 0 appears from the outlet of the second gate. Until the condenser's discharging, the third gate will have at the outlet 0 logical level. The impulse will be inverted by the fourth gate, which has its entrances connected together, and transmitted to the "clock" pin of the control bistable of the clocking direction. This one will charge the logical level in "data" changing or not the metering direction. The last chip: 30, MMC 4060 produces the clocking signal visually indicated by the decimal point of the digit, which displays the decimal fractions. The oscillator frequency is varied by a potentiometer, so the signal received at the Q4 outlet will have its own variable frequency, too. The metering signal could be a manual one (from a reversible switch) or an automatic one coming from the above-mentioned circuit, a commutable by a two position switch.

*Please amend the first full paragraph of page 8 as follows:*

The power source is as simple as possible, made of: a transformer, a rectifying bridge, a filtering condenser and two stabilizing integrators of 5V and 12V (31, 32), the first one powers the C-MOS circuits, it means the logical part; and the second charging the relays. Both circuits use the same heater sink.

*Please amend the third full paragraph of page 8 as follows:*

The flux modulation, ~~initially done with the purpose of growing the penetrating distance into the treated tissue,~~ represents an element of novelty versus former technical achievements.

*Please amend the fifth full paragraph of page 8 as follows:*

For an efficient ventilation cycle, there were designed two ventilation slits (f and g) in the back side of the a apparatus, concordant with the ventilation made by (5-14) fans, both in the superior side and near the foot plate.

*Please amend the sixth full paragraph of page 8 as follows:*

The final pencil resulted after going through this optic labyrinth has to have a minimum intensity, to be mechanic modulated at much lower frequencies comparing with the used radiation (longer wavelengths), ~~for obtaining o deeper distance of penetration into the tissue.~~

*Please amend the seventh full paragraph of page 8 as follows:*

Reviewing the constitutive elements of this MEDICAL APPARATUS WITH LIGHT PENCIL (FIG.1 - FIG. 3) we ~~remind~~ note the following:

*Please add the following between the eight and the ninth line of page 9:*

17, 18) digit 7 segments

19, 20) I.C. MMC 4543

21, 22) I.C. MMC 40192

23) I.C. MMC 4013

24, 25) I.C. MMC 4093

26, 27) I.C. MMC 40193

28) I.C. MMC 4048

29) I.C. ULN 2803

30) I.C. MMC 4060

31) I.C. LM 7805

32) I.C. LM 7812

*Please delete page 9, lines 19 to 25.*

*Please amend page 9, lines 28-29 as follows:*

1. PATENT WO [[0]]92[[1]]/13597-20.08.1992 ROMANIA [0133] inventor CAROL

PRZYBILLA

*Please amend the third paragraph of page 10 as follows:*

As a result of our studies, we ascertained that the shutter disc dimension of 150 mm, according to patent WO92/13597(1992), should be changed to the optimum dimension of 220 mm.

*Please amend the sixth paragraph of page 10 as follows:*

Associated with the dimension of the shutter disc 8, makes the two ellipses have different forms and dimensions, in contrast with WO [[0]]92[[1]]/13597. If in this patent, the ratio of the ellipses' axis of the orifices (c and d) is 066-095, in our description for patenting, the form and the dimension of c and d slits on the shutter disc 8 are variable, depending on the photons' flux frequencies, which are imposed by the sick people' diagnosis.

*Please amend the last paragraph of page 10 as follows:*

The area of speed for the shutter disc is between 1550-3000 turn/min., opposed to WO [[0]]92/13597 patent where the frequency variation is inexistent.

*Please amend page 11, line 6 as follows:*

Higher from 600-1000W in WO [[0]]92/13597 patent, to 1500W.

P115276.A05

*Please amend page 11, line 30 as follows:*

VIII. Turning Cylinders (12) in WO [[0]]92/13597 Patent